STATUS OF THE CLAIMS

1. (Original) A system for servicing data transactions within a processing device using common data paths, the system comprising:

a plurality of source agents operable to transmit a plurality of data cells;

a plurality of destination agents operable to of data cells;

a plurality of virtual channels for transporting data cells between said source agents and said destination agents; and

a switch operable to connect predetermined combinations of said source agents and said destination agents for the transmission of data, said switch generating a plurality of switch processing cycles and processing a plurality of control signals during said switch processing cycles, said control signals comprising:

a source request signal corresponding to a source agent having a first data cell for transmission to a destination agent;

an active state update signal designating said source agent as being active for the transmission of a first data cell;

a grant signal for the transfer of said first data cell from said source agent to a specified destination agent;

wherein a reload signal is generated during the same switch processing cycle as said grant signal, said reload signal indicating the availability of an additional data cell to transmission in a subsequent data cycle.

2. (Original) The system of claim 1, wherein said first data cell is transmitted to said destination agent three switch processing cycles after said grant signal and wherein said additional data cell is transmitted two cycles after said first data cell thereby transmitting data cells every other switch processing cycle.

3. (Original) The system of claim 1, wherein said availability of said data for generating said reload signal is determined by agent core logic.

4. (Original) The system of claim 1, wherein said source request signal generated by said active source comprises a requested destination agent and a requested virtual channel for transmission of said first data cell.

5. (Original) A method for servicing data transactions within a switch operable to connect predetermined combinations of source agents and destination agents for the transmission of data to a processing device using common data paths, the method comprising:

generating a plurality of switch processing cycles in said switch and processing a plurality of control signals during said switch processing cycles, said control signals comprising:

a source request signal corresponding to a source agent having a first data cell for transmission to a destination agent;

an active state update signal designating said source agent as being active for the transmission of a first data cell;

a grant signal for the transfer of said first data cell from said source agent to a specified destination agent;

wherein a reload signal is generated during the same switch processing cycle as said grant signal, said reload signal indicating the availability of an additional data cell to transmission in a subsequent data cycle.

6. (Original) The method of claim 5, wherein said first data cell is transmitted to said destination agent three switch processing cycles after said grant signal and wherein said additional data cell is transmitted two cycles after said first data cell thereby resulting in the transmission of data every other switch processing cycle.

7. (Original) The method of claim 5, wherein said availability of said data for generating said reload signal is determined by processing a data availability table.

8. (Original) The method of claim 5, wherein said source request signal generated by said active sources comprises a requested destination agent and a requested virtual channel for transmission of said data cell.

9. (Original) The method of claim 8, wherein each virtual channel has only one active request associated with a request during a single switch processing cycle.

10. (Original) A system for servicing data transactions within a processing device using common data paths, the system comprising:

a plurality of source agents operable to transmit a plurality of data cells;

a plurality of destination agents operable to of data cells;

a plurality of virtual channels for transporting data cells between said source agents and said destination agents; and

a switch operable to connect predetermined combinations of said source agents and said destination agents for the transmission of data, said switch generating a plurality of switch processing cycles and processing a plurality of control signals during said switch processing cycles, wherein:

(a) in a first switch processing cycle, a source agent having data for transmission to a destination agent generates a source request signal for transmission of a first data cell;

(b) in a second switch processing cycle, the switch updates the active state of said source agent generating said source request to designate said source agent as being active for the transmission of said first data cell;

(c) in a third switch processing cycle, the switch grants the transfer of said first data cells between said source agent; and

(d) wherein a reload signal is generated during said third switch processing cycle, said reload signal indicating the availability of an additional data cell to transmission in a subsequent data cycle.

11. (Original) The system of claim 10, wherein said subsequent switch processing cycle for transfer of said data cell is delayed by two cycles after said third

switch processing cycle and wherein said additional data cell is transmitted two cycles after said first data cycle thereby transmitting data cells every other switch processing cycle.

12. (Original) The system of claim 10, wherein said availability of said data for generating said reload signal is determined by processing a data availability table.

13. (Original) The system of claim 10, wherein said source request signal generated by said active source comprises a requested destination agent and a requested virtual channel for transmission of said first data cell.

14. (Original) A method for servicing data transactions within a switch operable to connect predetermined combinations of source agents and destination agents for the transmission of data a processing device using common data paths, the method comprising:

generating a plurality of switch processing cycles and processing a plurality of control signals during said switch processing cycles, wherein:

(a) in a first switch processing cycle, a source agent having data for transmission to a destination agent generates a source request signal for transmission of a first data cell;

(b) in a second switch processing cycle, the switch updates the active state of said source agent generating said source request to designate said source agent as being active for the transmission of said first data cell;

(c) in a third switch processing cycle, the switch grants the transfer of said first data cells between said source agent; and

(d) wherein a reload signal is generated during said third switch processing cycle, said reload signal indicating the availability of an additional data cell to transmission in a subsequent data cycle.

15. (Original) The method of claim 14, wherein said subsequent switch processing cycle for transfer of said data cell is delayed by two cycles after said third switch processing cycle and wherein said additional data cell is transmitted two cycles after said first data cycle thereby transmitting data cells every other switch processing cycle.

16. (Original) The method of claim 14, wherein said availability of said data for generating said reload signal is determined by processing a data availability table.

17. (Original) The method of claim 14, wherein said source request signal generated by said active source comprises a requested destination agent and a requested virtual channel for transmission of said first data cell.